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THE Farm Cost SITUATION

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GENERAL SITUATION

Farm production costs have reached a new high during the past winter. They probably will continue high through 1948. However, prices farmers receive for their products reached a record high level in January but have declined since. Prices of a few farm products are about at prewar levels. Most farmers are likely to have a profitable year, but some will be pinched by high costs.

The index of prices of all commodities except labor used in farm production has nearly doubled since 1939. In 1947 it averaged 184 percent of 1935-39, compared with 151 in 1946 and 137 in 1945. During the last 4 months of 1947 this index averaged 196 compared with 160 for the same period in 1946. The average for the first quarter of 1948 was 202 compared with 169

Goods and services used in production: Prices paid by farmers and farm wage rates, United States

(Index numbers 1935-39 = 100)

Year	All commodities 1/	Farm machinery	Building material other than house	Equipment and supplies 2/	Feed	Fertilizer	Seed	Wage rates
1910	77	66	68	91	86	99	-	82
1911	81	66	70	90	99	99	-	83
1912	77	66	70	90	84	100	66	86
1913	80	66	68	90	99	102	63	88
1914	78	66	63	89	94	100	64	86
1915	82	68	69	95	93	112	77	87
1916	98	70	79	116	120	120	92	96
1917	119	80	93	141	170	137	96	119
1918	137	102	109	163	179	170	123	150
1919	151	105	128	162	195	182	181	175
1920	137	109	139	170	127	186	98	205
1921	111	105	105	137	90	156	86	131
1922	109	93	107	126	114	129	84	129
1923	111	97	109	123	124	126	92	144
1924	112	101	109	120	131	120	97	147
1925	116	101	111	126	131	129	111	149
1926	115	101	109	130	127	126	138	152
1927	113	101	108	127	128	121	127	152
1928	117	101	107	124	137	131	115	152
1929	116	100	107	123	134	130	119	153
1930	111	100	105	118	122	126	112	142
1931	97	99	94	104	86	115	98	110
1932	86	93	85	96	64	99	66	81
1933	85	91	87	93	71	96	61	72
1934	97	95	99	98	98	104	90	81
1935	100	96	97	97	105	102	99	88
1936	98	98	98	99	104	96	91	94
1937	107	101	105	102	121	102	124	107
1938	99	104	100	103	85	100	102	106
1939	96	101	100	99	85	100	84	105
1940	98	100	101	99	94	97	84	107
1941	103	103	109	104	101	100	80	131
1942	117	108	120	114	125	111	123	171
1943	128	111	128	121	150	120	156	224
1944	136	114	138	126	165	121	175	268
1945	137	116	141	128	163	121	181	297
1946	151	120	158	132	194	124	190	321
Jan.	138				165			307
Feb.	139				167		186	
Mar.	139	116	144	128	168		191	
Apr.	140				169	122	191	307
May	146				182		192	
June	150	118	151	129	191			
July	159				227			321
Aug.	161				231			
Sept.	157	121	156	133	214	127	189	
Oct.	159				210			321
Nov.	161				210			
Dec.	163	123	180	135	204			
1947	184	137	222	150	235	138	230	346
Jan.	163				196			339
Feb.	169				192		229	
Mar.	176	128	218	138	212		239	
Apr.	179				219	136	240	337
May	178				215		239	
June	183	138	218	148	229			
July	184				235			343
Aug.	188				247			
Sept.	193	141	220	155	264	140	228	
Oct.	194				264		208	343
Nov.	195				265			
Dec.	200	142	230	159	277			
1948								
Jan.	204	-	-	-	291	-	-	360
Feb.	201	-	-	-	264	-	219	-
Mar.	201				265		221	

1/ Excluding wages.

2/ Based on prices paid by farmers for 16 items including binder twine, lead arsenate, milk pails, pitchforks, gasoline for autos and trucks, motor oil, and tires, and other similar items used on farms for production.

Note:- For a list of items included in this table see "Agricultural Prices" Bureau of Agricultural Economics, April 29, 1946.

for the first quarter of 1947. Farm wage rates have risen similarly during this period. They are now more than three times their prewar, 1935-39 level.

Since 1935-39, farmers' total out-of-pocket operating expenses have risen from 9 to 25 percent each year. They mounted from an average of 5.2 billion in 1935-39 to nearly 12.8 billion in 1946 and 15.3 billion in 1947. They are expected to increase further in 1948. On the other hand, the index of farm product prices in 1947 averaged 159 percent above the 1935-39 average. This was the highest on record and nearly 20 percent above the previous high of 1946. Prospects are for continued high prices for many products in 1948. Gross farm income in 1947 was 34.6 billions compared with 10.4 billions in 1935-39. Gross total farm production was 22 percent higher in 1947 than in the prewar period 1935-39.

There may be some improvement this year over last in both the farm labor supply and the general skill and experience of the workers. But farm wage rates will continue high, probably near last year's record. The prospective increase in the supply of farm machinery will alleviate the general farm labor situation, particularly for those farmers who are in a position to substitute machinery for labor.

New farm machinery plants are coming into production and old plants are producing at record levels. Farm machinery output in 1948 probably will exceed the record output of last year. Except in 1943, farm machinery production has been high for over a decade. Each year since 1943 machinery production has exceeded that of the previous year. Production of wheel tractors in 1947 was 420,000 compared with 255,000 in 1946, and the previous high record of 313,000 in 1941. The number of tractors on farms January 1, 1948, was more than double prewar. Exports of farm machinery probably will be somewhat higher in 1948 than in 1947, but farm machinery production in

1948 is expected to be enough higher to take care of these exports and provide United States farmers with more new machinery than in 1947.

Feed costs are high and probably will remain high for several months, although feed prices dropped considerably in late January and February 1948. But high feed costs alone do not mean necessarily that a livestock enterprise is unprofitable. Prices of livestock and livestock products also are important in determining the profitableness of livestock feeding. These prices are comparatively high and probably will remain high in 1948. Under present price relationships it will pay livestock farmers in 1948 to substitute high protein feeds for feed grains whenever possible, and it is likely that this situation will continue until the new crop of feed grains becomes available. The supply of feed grains on hand January 1 was about 25 percent lower than a year earlier, but total livestock production between now and next fall is expected to be only about ten percent below a year ago.

As usual, the average cost of seeds this year does not tell the whole story of what farmers will have to pay for specific kinds and varieties of seeds. Prices will vary widely by areas. Higher prices are reported for red clover, Ladino clover, Korean lespedeza, crested wheat grass, corn, rapeseed and a few seed grains. Lower prices are being asked for alfalfa, timothy, Kentucky bluegrass, orchard grass, white clover, brome and ryegrass (see table 3).

Fertilizer prices are higher now than a year ago and are expected to remain higher than in 1947, when they averaged about 12 percent above 1946. Nitrogen, phosphoric acid and potash supplies have been increasing and are expected to be about 5 percent greater than in 1947. However, supplies of nitrogen and potash probably will be short compared with current demands.

Supplies of farm building materials, containers, insecticides and fungicides and some other materials have been improving and most items will be easier to get in 1948 than they were in 1947. Although production of most items, particularly lumberand building materials has been high, current demand has absorbed much of the supplies. Stocks of lumber are low compared with prewar partly because of the reluctance of dealers to build up inventories at current high prices. Supplies of most insecticides and fungicides will be sufficient to meet the demands, and farmers may expect to obtain them at lower prices.

Farm land rentals and land values have continued to increase. Land rentals are over 3 times the prewar level and higher than for any previous year. Land values are practically at the 1920 peak reached in the boom that followed World War I. A large number of recent farm buyers have made full cash transactions, but many have assumed mortgages. Those farmers who have large mortgages need to recognize that they have contracted for a heavy fixed cost for interest and principal payments. In addition, farm real estate taxes also are increasing.

Farmers should recognize that cost rates are characteristically inflexible and that any decline in farm commodity prices and farm incomes will make it difficult for many farmers to meet payments on their debts.

Farm Labor

The farm labor situation this year is not expected to be greatly different from that of 1947. There may be a small increase in farm labor supply and in total farm employment. Nonfarm employment is at a peacetime high, and there will be continued active competition for workers. Farm wage rates probably will average about the same as last year.

The prospective increase in supply of farm machinery again will help farmers to attain comparatively high production. But farmers who depend chiefly on hired workers this year will still find it necessary to plan carefully for their labor supplies.

Table 1.- Farm wage rates and related data, United States,
1935-39 average and 1940-47 inclusive
(Index numbers 1935-39 = 100)

Period or year	Farm employment			Gross farm production 2/		Farm wage rates	Ratio farm wage rates to	
	Total 1/	Family 1/	Hired	Total	Per worker 3/		Production per worker	Gross farm income per worker
1935-39	100	100	100	100	100	100	100	100
1940	97	96	100	108	111	107	96	98
1941	95	94	99	111	117	131	112	94
1942	95	94	99	123	129	171	133	91
1943	94	94	94	120	128	224	175	95
1944	92	93	87	124	135	268	199	106
1945	90	92	82	123	137	297	217	110
1946	92	94	84	126	137	321	234	106
1947 4/	93	95	87	122	131	346	264	97

1/ Includes farm operators and members of their families working without wages.
2/ Includes value of farm-produced power of horses and mules.
3/ Based on total farm employment and total gross production.
4/ Preliminary.

Farm Power and Machinery

New farm machinery plants are coming into production and old plants are producing at record levels. If labor-management-difficulties or other unfavorable developments do not occur, total production of farm machinery in 1948 will exceed the record high output of 1947. The most pronounced increase in production in 1948 is expected for small wheel tractors and their complementary equipment. On the other hand, production of dairy and poultry equipment, feed cutters and most kinds of horse drawn equipment may even decline. But these items were in relatively good supply in most retail outlets in 1947, and are likely to be adequate in 1948.

Full details concerning 1947 production are not yet available but the total output of farm machines probably was about one-third above the previous record output of 1946 and about double the 1935-39 average. Production of wheel tractors in 1947 was 420,000 compared with 255,000 in 1946 and the previous high of about 313,000 in 1941.

Exports of farm machinery in 1947 were also at a record high level. The volume of new machinery exported in 1947 accounted for around 18 percent of the total output of farm machinery including industrial tractors, and was about two-thirds greater than in 1946. Exports of new tractors in 1947 included about 80,000 wheel tractors, 15,000 garden tractors and 12,000 crawlers. About three-fourths of the crawler exports were for nonfarm use. Total production of tractors in 1947 was 624,000. This included 420,000 wheel, 166,000 garden, and 38,000 crawler type tractors.

European countries in 1948 may take a considerably larger proportion of our exports of farm machinery than in 1947 when they took about 20 percent. Exports to non-European countries in 1948 may show little change and even decrease somewhat from the high level of 1947, because dollar shortages in some countries are expected to influence adversely their purchases of farm machinery.

Export demand in 1948 is expected to be especially strong for crawler tractors and for large wheel tractors of the diesel type or those adapted for use with heavy motor fuels. Supplies of these tractors likely will continue relatively tight for sometime.

Despite high exports, United States farmers in 1947 obtained more farm machines than in any previous year. Production of new machinery in 1948 should increase sufficiently over 1947, to permit a moderate increase in exports and still leave more machinery for domestic use than ever before.

Wholesale prices for farm machinery in 1947 were about 13 percent higher than in 1946 and about 30 percent above the 1935-39 average. However, retail prices in 1947 for many machines were often substantially more than 30 percent above the prewar price since current models have more accessories than did the prewar models.

Farm incomes, feed prices, and farm wage rates in 1947 were 200 percent or more over the 1935-39 levels. Thus in 1947, as in most recent years, there was a tremendous demand for power machines, and for all kinds of labor saving machinery. The high prices received for crops have increased the demand for machinery because farmers, by using more machines, can shorten the time required for planting and harvesting and lessen the risk of crop loss.

Farmers in some areas are reported to be buying much of their machinery particularly tractors and tractor equipment from sources that charge prices substantially above either the manufacturer's list prices or those charged by authorized farm machinery distributors. Thus prices paid by farmers for such items may be somewhat higher than are generally reported. The "gray markets" are believed to be most important in the North Central States where the especially favorable grain and livestock prices have bolstered farm incomes greatly.

For more than a decade farm machinery production has been at a high level except in 1943. The number of tractors on farms in 1948 will be more than double prewar. Horse and mule numbers on January 1, 1948, were the lowest in more than a century. Numbers of workstock in 1948 (animals 3 years old and over) were about 39 percent below prewar. Reduction in horse and mule numbers has been especially marked since 1945. In these three years beginning with January 1, 1945, almost 2.8 million head of horses and mules disappeared from farms. Exports of horses and mules were large in both years but much of the loss in numbers apparently resulted from slaughter. Prices for horses and mules in most areas have been below prewar prices, and slaughterers often have paid higher prices for animals than were offered by other purchasers. Many animals suitable for further farm work have been sold for slaughter.

The colt crop of 1947 numbered only 226,000 head. This was only about one-third as large as the average annual prewar crop, and only one-tenth as large as during the World War I period.

Low prices for work animals along with the high feed prices are making colt raising unprofitable, and many farmers who formerly produced work animals for sale now use their feed and other resources for producing meat animals or animal products. The decline in colt production likely will continue until prices of work animals increase relative to prices of other farm products. The 1948 colt crop is expected to be even smaller than the 1947 crop.

Along with the tremendous decline in horse and mule numbers, farmers have purchased large numbers of tractors and tractor machines and motor vehicles, especially motor trucks. Reflecting the large machinery purchases, the total volume of machinery and power on farms January 1, 1947 was about 40 percent above prewar (see table 2). With farm machinery output in 1947 at a record high level and with farmers buying substantial numbers of automobiles and motor vehicles, the total volume of machinery and power on farms January 1, 1948 was around 50 percent above prewar.

With high production of farm machinery, automobiles and motor trucks, the increase in volume of machinery and power on farms from January 1, 1948 to January 1, 1949 may be larger than for any previous year.

Feed

Feed costs are still high and probably will remain so for several months. The supply of feed grains on January 1 was about 25 percent lower than a year earlier while total production of livestock and livestock products between now and next fall is expected to be only about 10 percent below a year ago. In the Northeastern States where more than half of the feed concentrates used is shipped in, the number of grain-consuming livestock and poultry to be fed is only about 3 percent less than in the year before. However, marketings of corn from surplus areas probably will be 40 percent less than a year earlier. The demand from deficit areas appears to be strong enough to hold prices up or push them up still higher until the 1948 feed crops are available.

If this year's feed grain crop is average or larger, supplies next fall in relation to livestock will be much more plentiful than now. With an average feed grain crop in 1948, the total supply of feed concentrates this fall will be about 10 percent above the average for 1937-41 when stocks were high. Furthermore, the number of grain-consuming livestock is down to prewar level and cannot be increased materially before another year.

In March 1948, the index of prices of feed grains and hay was 299 (1935-39 = 100) and the index of livestock and livestock product prices was 258. On March 15 all livestock prices were still low compared with feed prices. The hog-corn ratio in March 1948 was 10.3 compared with the long-time average for March of 12.8; milk-feed 1.15 compared with 1.26. Particularly low was poultry. Farmers' intentions to reduce chickens and turkeys raised by one-fifth in 1948 reflect these low ratios.

Table 2.- Farm power and machinery and related data, United States, 1935-39 average and 1940-48
(Index numbers 1935-39 = 100)

Year or period	Number on farms, January 1						Volume on farms January 1 1/			
	Horses and mules, all ages	Work stock 3-years old and over	Colts under 1-year of age	Tractors	Auto-mobiles	Motor trucks	All machinery and equipment other than tractors and motor vehicles	All farm power, (including work animals) machines and equipment	Gross farm income calendar year 2/	Prices received by farmers
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1935-39	100	100	100	100	100	100	100	100	100	100
1940	92	89	101	124	106	108	119	107	106	93
1941	90	87	98	135	111	113	125	110	133	115
1942	87	84	85	152	120	119	137	117	178	148
1943	84	83	69	169	112	132	152	121	221	179
1944	80	81	62	178	107	142	158	122	232	182
1945	76	77	54	195	107	153	176	128	244	188
1946	70	72	41	208	107	159	200	134	278	217
1947 3/	64	66	35	225	113	178	219	141	332	259
1948 3/	58	61	30							

1/ In terms of 1935-39 prices.
2/ Includes government payments.
3/ Preliminary.

Unless feed grain crops in 1948 are poor, feed is likely to be cheaper next fall in relation to livestock and livestock products than it is now.

It will pay to conserve feed this spring and summer, not only on farms where it is purchased but also on farms where it is sold. It will reduce costs in the first case and allow more grain for sale in the other. One of the principal means of saving grain feed in the summer is by the maximum use of pasture, not only for cattle and sheep but for hogs and poultry as well. Improvement of permanent pastures by fertilizing and liming, and by providing supplementary pastures for use during July and August when the permanent pastures often dry up, are helpful in maintaining production with a minmum use of high priced grain.

Many farmers will keep their grain costs low this summer by having a field of clover or alfalfa for livestock to range over. If these crops are not available, a field of rape or other temporary grazing crop should be provided. Sudan grass, millet, soybeans, and cowpeas are good crops for summer pasture. Annual lespedeza seeded with small grain will be ready for grazing after the grain is cut.

Another way of saving grain is by using enough high protein feeds to balance the ration. Farmers generally do not use enough protein feeds. This is particularly true in the West North Central States. Protein feeds are more abundant this year than in many years and are a little cheaper than usual compared with feed grains. In most of the country oil meals are selling for only about 1½ times the price of corn. A pound of oil meal will save more than 1½ pounds of corn in rations deficient in protein.

Feed costs next winter can be reduced if farmers will cut their hay at the proper stage of maturity this summer and cure and store it to preserve the quality. A large part of the feed value of hay is lost by allowing hay to stand too long, and by following systems of handling that fail to preserve the maximum feed value.

Seeds

Present estimates are that the average cost of field seeds will be about the same this year as last but about twice as high as prewar. Although retail prices of 15 of 24 kinds of field seeds in mid-March were higher than a year ago, the full effect of recent lower wholesale prices for many kinds of seeds may not have been fully reflected in retail prices (see table 3). Prices received by growers on November 15, 1947 for the 1947 crop of 14 important kinds of field seeds averaged 7 percent lower than in 1946 but 93 percent higher than in 1935-39.

As usual, the average cost of seeds this year will not be a good index of what farmers will have to pay for specific kinds and varieties. The supply, while good in general, varies a great deal by individual items. Sharp increases in retail prices are reported for red clover, ladino clover, Korean lespedeza, crested wheatgrass, rapeseed, seed corn, and seed grains. On the other hand, lower prices are being asked for alfalfa, timothy, orchard grass, Kentucky-bluegrass, white clover, alsike clover, brome and ryegrass. For the first time since 1937, red clover seed costs more than Grimm alfalfa.

Table 3.- Retail Seed Prices, March 15, United States
Index numbers (1942-46 = 100)

Item	1946	1947	1948
Clover, Red	118	153	177
Clover, Alsike	117	150	148
Clover, White	131	112	86
Clover, Ladino 1/	114	107	134
Clover, Sweet	112	115	125
Lespedeza (Korean)	101	88	143
Alfalfa, Common	107	115	92
Alfalfa, Grimm	107	120	106
Timothy	100	114	100
Redtop	111	140	148
Kentucky, Bluegrass	160	325	133
Common Ryegrass	114	118	114
Orchard Grass	103	74	60
German Millet	131	143	162
Smooth Brome	102	156	119
Crested Wheat Grass	95	165	220
Amber Sorgo	145	175	193
Sudan Grass	114	133	142
Rapeseed	114	98	117
Seed Corn (hybrid)	108	116	137
Seed Corn (open poll.)	122	126	151
Spring Wheat	116	158	178
Oats	114	138	217
Barley	122	147	209

1/ Base period is 1943-46.

Fertilizer

Farmers paid approximately 12 percent more per ton for fertilizer in 1947 than in 1946. Fertilizer prices this year are expected to be higher than in 1947. Prices received by farmers for all crops and livestock were about 20 percent higher in 1947 than in 1946, so that there was a continued rise in the purchasing power of all farm products for fertilizer.

Transportation is important in the cost of fertilizer to the farmer. Freight rates are also higher now than a year ago. Wholesale prices of fertilizer materials are approximately 8 percent above those of a year ago. This means further increases in the cost of fertilizer to farmers during 1948.

The effect of the increase in freight rates is only partly reflected in the change in wholesale prices of materials. Some of these price changes are measured at the point of origin of the material so that the cost of transportation to the manufacturing plant must be added. Then there is also the freight cost from the manufacturer to the retail distributor.

Costs of transporting fertilizer tend to pyramid because the same materials are frequently moved three times or more in going from the raw material stage to the farmer. In 1944, carload shipments of fertilizer on class 1 railroads alone were double the amount consumed in that year. The ratio is about three to one if all kinds of transportation are included.

Supplies of fertilizer for this crop season will be about double the average annual quantity used before the war. Supplies of nitrogen, phosphoric acid and potash will be up about 4, 6, and 5 percent, respectively, over those of last year. Even with these increases, supplies of nitrogen and potash, particularly, will be short compared with what would be purchased at current price relationships. Crop price-fertilizer cost relationships are frequently regarded as the measure to use in determining profitable quantities of fertilizer to apply. However, the benefits of fertilizer carry through into livestock enterprises in the form of lower cost feed and increased gains through improvement in the feeding quality of the crops. This fact is becoming of increasing importance as more fertilizer is used to increase yields, quality, and carrying capacity of hay and pasture. Therefore, livestock and livestock product prices are also important in the purchase of fertilizer.

The relationship between prices received by farmers and fertilizer prices determines the rate and extent to which fertilizer application is profitable. Fertilizer consumption has rarely been as great as would have been most profitable except for certain crops on which some farmers have long followed the practice of heavy applications.

Lumber, Containers, and Supplies

The supply of farm building materials has been improving and some items will be easier to get in 1948 than in 1947. The supply of 2x4's, 2x6's and rough boards will be more plentiful than in 1947. However, total production of lumber in 1948 probably will be about the same as in 1947, when 38 billion board feet were produced. This is the highest production of any year since 1929. Stocks of lumber are still increasing in retail yards, mills, and concentration yards. On January 1, 1948, they totaled 9.8 billion board feet compared with 8.1 billions on January 1, 1947, and 14.4 billions on January 1, 1941. By February 1, 1948, these stocks had increased to 10.3 billion board feet. Low stocks compared with prewar are due in part to dealers reluctance to build up inventories of high-priced materials.

Production in 1947 of barbed and woven wire, fencing, nails and staples, bale ties, wire netting, pipe and galvanized roofing and siding was 10 to 20 percent higher than in 1946, and production in 1948 is expected to be still higher. The general demand for merchant trade products has been high. Pipe has been in tight supply because of the continued demand for use in the housing program and other construction and industrial uses. Although production of galvanized roofing and siding, nails and bale ties is at an exceptional high rate; demands continue to exceed production and some areas have experienced shortages.

Imports of burlap for bagging and other agricultural purposes are expected to be higher in the first six months of 1948 than in the same period in 1947. Paper, open mesh and cotton bags should be in good supply and sufficient to meet current demands. Supplies of tin cans and wooden containers also are expected to be equal to or slightly larger than in 1947.

Insecticides and Fungicides

Prices for several kinds of insecticides, as well as for some of the chemicals used in insecticides have decreased some during the last few months. This is particularly true of DDT and insecticides containing this chemical. It appears that prices are now fairly well stabilized. It is not anticipated that there will be any other significant reductions in prices of insecticides in the near future or for materials needed for use during the coming season.

The supply of nicotine compounds will continue to be below the demand and need. The supply of nicotine insecticides, however, is somewhat more favorable than it was for the 1947 season. This is due in part to a slight improvement in production and in part to the use of other materials for some insects formerly controlled by the use of nicotine compounds.

Pyrethrum will be available in adequate quantities to meet the needs for 1948. Rotenone insecticides are now in plentiful supply. However, the rotenone insecticides for use during the current crop season will have to come for the most part from inventories already in this country since further imports would arrive too late for use during the period of greatest need. This may result in shortages during the latter part of the season.

The supply of arsenicals, particularly lead arsenate and calcium arsenate, probably will be sufficient to meet the needs in 1948. The newer insecticides such as DDT, chlordane, benzene hexachloride, chlorinated camphene, should be available in amounts fully adequate to meet estimated requirements for 1948. Supplies of insecticides which contain fluorine, such as cryolite, sodium fluoride and sodium fluosilicate, also will be ample for 1948. Napthalene, paradichloro-benzene and others should be reasonably in balance with the needs for 1948. Sulphur, dust diluents, and oils used as insecticides or as carriers also should be available in adequate quantities. Newer soil fumigants and fungicides are expected to be generally available.

Raw materials for the manufacture of practically all insecticides and fungicides are available in quantities to meet the needs for the 1948 season. The insecticide and fungicide industry has the capacity and facilities for producing, marketing, and distributing most of the materials that will be required. Purchases indicate that there has been unusual delay on the part of those who use insecticides in deciding the amount and type of material they will use. This has been due in part to uncertainty about some of the newer materials. This delay has complicated the field supply situation considerably. The supply of many of the more important insecticides and fungicides now available at appropriate distribution centers and in the hands of the users is well below the normal use pattern.

The slowness in procuring and stocking supplies may have a serious effect on the availability of materials in the field at the time they are needed. Those who plan to use insecticides and fungicides should either purchase them now or make definite arrangements with their immediate suppliers to be sure that the quantities they will need will be available.

Farm Land Rentals and Values

Farm land rentals during each of the last 2 years have been more than 3 times the prewar level and higher than for any previous year. Land values have also been steadily increasing. They are now double the prewar average and practically at the 1920 peak reached in the boom that followed World War I (table 4).

Table 4.- Farm real estate: Index numbers of estimated average value per acre by geographic divisions, 1920 and 1947, with selected comparisons 1/

Geographic divisions	Index numbers 1912-14 = 100			Increase			Ratio
	1920	1947		1915 to 1920	1941 to 1947	Nov. 1946 to Nov. 1947	Nov. 1947 to 1920
		March	Nov.	Percent	Percent	Percent	Percent
New England	140	152	157	41	44	8	112
Middle Atlantic	136	144	147	36	59	7	108
East North Central	161	152	153	55	90	9	95
West North Central	184	119	126	75	89	12	68
South Atlantic	198	217	215	102	95	7	109
East South Central	199	246	248	101	111	10	125
West South Central	177	170	181	77	78	10	102
Mountain	151	149	158	54	97	9	105
Pacific	156	215	215	46	98	0	138
United States	170	159	164	65	91	8	96

1/ Farm land with improvements as of March 1, except where otherwise indicated.

For the year ended November 1, 1947, average values for the country as a whole rose 8 percent, compared with a rise of 14 percent a year earlier. Most of this increase took place during the late fall and winter of 1946-47. The National index rose only 3 percent from March 1 to November 1, 1947. A leveling off in values was apparent during this period in a number of geographic divisions. Average values decreased one percent in the South Atlantic States, were unchanged for the Pacific States, and increased only one percent in the East North Central and East South Central States. Values in the West North Central, West South Central and Mountain groups of States continued to increase rather sharply.

Despite a high proportion of all-cash sales and the large average down-payment in mortgage-financed sales, many recent farm buyers have incurred heavy debts. About one-third of the farms sold have been mortgaged for 50 percent or more of the purchase price, or approximately the full prewar market values.

Those farmers who are heavily indebted need to recognize that they have contracted for a heavy fixed cost for interest and principal repayments. In view of the characteristic inflexibility of production costs, declines in farm commodity prices and incomes would again cause many indebted farmers to have difficulty in meeting their mortgage payments and other fixed obligations.

Interest, Taxes, and Insurance

Interest payments - Total interest payments made by farmers on their farm-mortgage debt increased about 2 percent in 1947. This is the second consecutive year that shows an increase. Prior to 1945, interest payments had declined steadily for nearly a quarter century. The total payment, however, is still low relative to 1947 farm income and to past interest payments. The higher interest payments payable by farmers on last year's mortgage indebtedness reflects both an increase in such debts and a somewhat higher average interest rate paid. Increased average interest rates reflect a relatively larger volume of new loans with higher interest rate lenders.

In addition to higher interest payments, a larger proportion of current loans outstanding probably require periodic principal repayments. While not technically a cost, the necessity for principal payments means that farmers have somewhat higher debt service obligations.

Interest payments on short-term non-real-estate loans to farmers during 1947 also increased over a year earlier. There is no indication as yet of any material change in interest rates but interest payments for 1947 probably were 15 percent more than in 1946 due to the larger volume of such loans. Considering total interest payments for 1947 on both mortgage and short-term loans, it is probable that they will be 7 or 8 percent higher than a year earlier. In view of the general situation it appears that interest payments in 1948 will be as high or higher than in 1947.

Taxes - Farm property tax levies in 1946 averaged about 12 percent higher than those of 1945. Preliminary indications are that the 1947 levies, payable largely late in 1947 and early in 1948, will show a further increase of about the same amount. This will be the fifth consecutive annual increase in this series. These increases in property taxes reflect in part the added cost of providing an expanding volume of State and local government services in a period of generally rising prices. Not all of the increase in costs, however, falls upon property. In 1947, general retail sales taxes were adopted by four additional States, and a number of States increased gasoline and excise taxes. Thus, the course of property-tax levies in the next few years also will be influenced by the extent to which other taxes are used to finance increased expenditures.

Insurance - Fire and lightning insurance on farm property increased about 10 percent in 1947, compared with about 7 percent in 1946. Higher property valuations influenced some farmers to increase the amount of insurance and caused others to take out insurance. It is probable that insurance payments in 1948 will be somewhat higher than in 1947.

The premium and assessment rates charged farmers per $100 of insurance have not increased greatly in recent years. However, total premiums paid by farmers have probably increased 12-15 percent more in 1947 than in 1946, due to increased purchase of fire and windstorm insurance, and greatly increased purchases of hail insurance on growing crops. Indications are that record-high purchases of hail coverage were made by farmers in 1947--even higher than in 1946.

Gains in Farm Production Efficiency

United States farmers have made remarkable progress in production efficiency. This efficiency helped make possible the food production needed in winning two great wars. It has benefited many farmers, and often has meant the difference between farm profit or loss. Increasing production efficiency has enabled farmers to feed and clothe an increasing domestic population, and at times produce a surplus for hungry people in foreign countries.

A recent bulletin on farm mechanization, 1/ prepared in the Bureau of Agricultural Economics, traces the course of some of these important changes and analyzes the role that mechanization has played. Each farm worker now produces enough food and fiber to support himself and 13½ others. A century ago (1820) the average farm worker supported himself and only 3½ others. A man hour of farm labor now yields about 1½ times as much as it did at the time of World War I. Half of this increase in labor efficiency was due to advances in farm mechanization. The other half has resulted from other technological gains, chiefly increases in yields of crops and livestock.

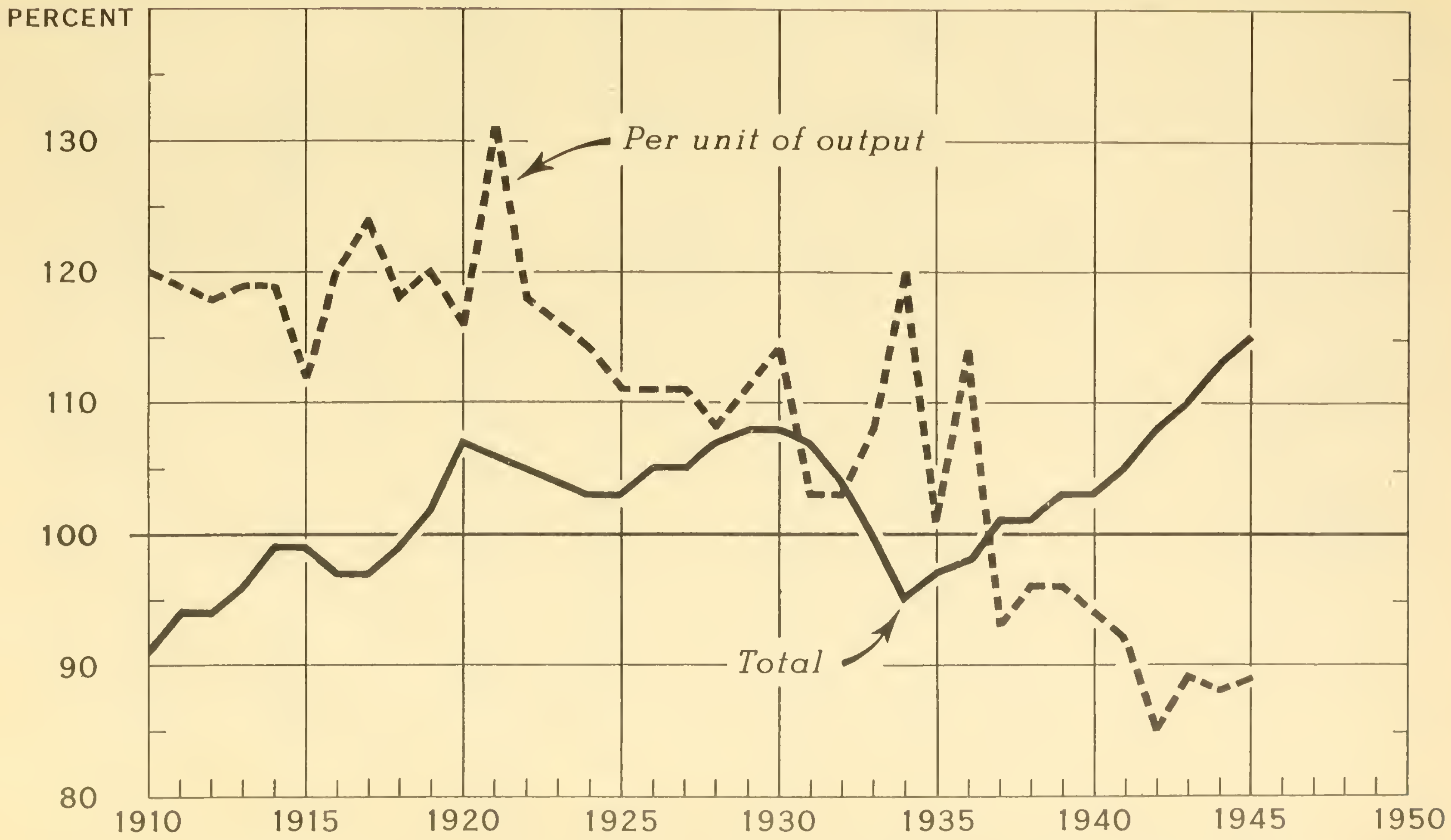
Contrary to the opinion of many, farm workers have matched industrial workers in their productivity increases during the last decade. So many startling changes occurred during this time that it has been labeled as a period of "revolution in farming." Actually, however, farmers in recent years have cashed in on the production methods that had been developed over a long period of trial and experimentation.

Gains in farm production efficiency in the past have meant greater production per worker, per acre, per animal, per unit of power and machinery. In short, it has meant more product per unit of total production resource. A measure of the increased efficiency of use of all farm production resources is shown in figure 1. A unit of farm output is now produced with a fourth less inputs of all kinds than a generation ago.

1/ U. S. Department of Agriculture Misc. Pub. 630, "Progress of Farm Mechanization", by Martin R. Cooper, Glen T. Barton, and Albert P. Brodell, October 1947.

PRODUCTION INPUTS: TOTAL AND PER UNIT OF FARM OUTPUT, UNITED STATES, 1910-45

INDEX NUMBERS (1935-39=100)



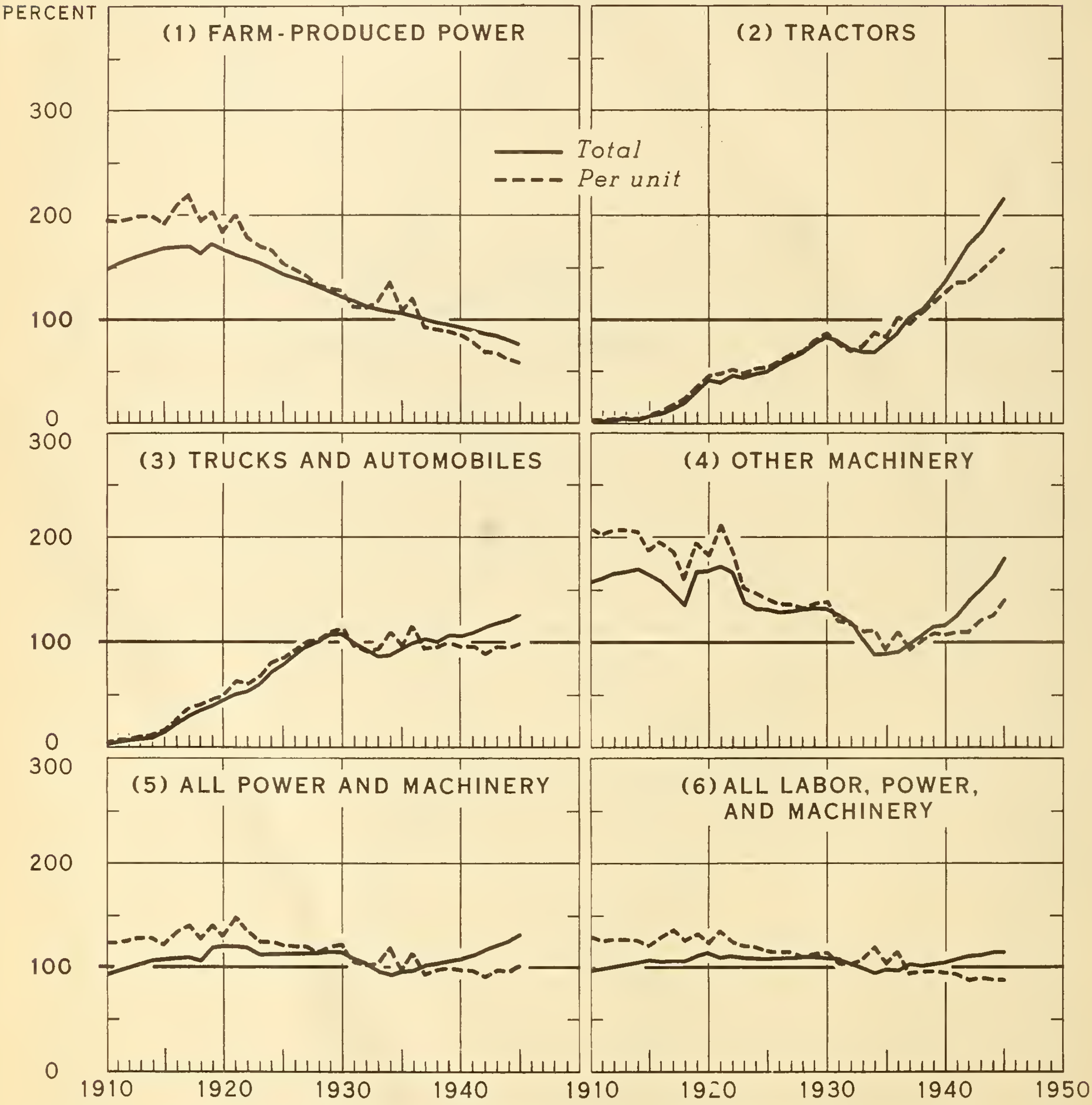
INPUTS ARE PHYSICAL QUANTITIES OF ALL FARM LABOR, LAND, MACHINERY, POWER, FERTILIZER, AND OTHER MATERIALS AND RESOURCES USED IN FARM PRODUCTION (WEIGHTED BY AVERAGE 1935-39 PRICES)

U. S. DEPARTMENT OF AGRICULTURE FIGURE 1 NEG. 46635 BUREAU OF AGRICULTURAL ECONOMICS

PRODUCTION INPUTS OF FARM POWER, MACHINERY AND LABOR: TOTAL AND PER UNIT OF FARM OUTPUT, UNITED STATES, 1910-45

(INPUTS WEIGHTED BY AVERAGE 1935-39 PRICES)

INDEX NUMBERS (1935-39 = 100)



U. S. DEPARTMENT OF AGRICULTURE FIGURE 2 NEG. 46414-A BUREAU OF AGRICULTURAL ECONOMICS

Total volume of production inputs has increased only slightly since 1910. But total farm output has risen by nearly 75 percent. This notable rise in production has been achieved with very little increase in cropland area, fewer farm workers, a change from animal power and machines to mechanical power and machinery, and increased quantities of fertilizer, lime, and other production goods. Generally, increases in physical efficiency in agriculture have been brought about by increasing production per unit of input rather than by decreasing total inputs. Most of the technological developments that resulted in increased efficiency also resulted in greater total volume of farm output.

Total inputs of farm labor, power, and machinery, which account for about two-thirds of the volume of all physical inputs have changed little in the last third of a century. But there have been marked changes in the individual items of the group (figure 2). The most pronounced change has been the substitution of mechanical power of tractors, trucks, and automobiles for animal power of horses and mules. This has increased output per unit of input in two ways. The decline in number of horses and mules on farms and in nonfarm areas has released more than 55 million acres of cropland from the growing of feed for work animals to the production of food and fiber for human use. Thus the net amount of produce for human consumption has been increased. At the same time, mechanical power and associated modern equipment have greatly increased the efficiency of farm workers.

Mechanical power and equipment have displaced both animal power and human power on farms. When inputs of farm labor are combined with those of power and machinery, the total shows virtually no change over the last third of a century (section 6, figure 2). The strong upward trend in farm output, with practically a constant volume of total inputs of farm labor, power, and machinery has reduced physical inputs per unit of output about one-third since World War I. This means that farmers as a group are now using one-third less total labor, power, and machinery combined to produce one unit of farm output than was used a quarter century ago.

Violent fluctuations in prices paid by farmers and in prices received for farm products have tended to overshadow the trends in physical efficiency of farm production. For example, in the depression of the 1930's production efficiency could not possibly offset the effects on farm returns of 40-cent wheat, 6-cent cotton, and 3-cent hogs. Nevertheless, gains in production efficiency have contributed greatly to the long-time rise in real income of farmers. This has compared quite favorably with the long-time increase in real wages of industrial workers.

The future holds great promise of advances in the efficiencies of farm production far surpassing those of the past quarter of a century. Farmers who are able to take advantage of mechanization, technological changes and improved practices will profit not only from lower unit costs but also from the larger output per farm commonly associated with such improvements. Furthermore, farmers who take advantage of such technological developments will be in a better position to weather adverse conditions. Unit production costs, in terms of quantities of cost goods used, will continue to decline except as interrupted by drought, depression and other adverse developments.

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